SENSITIVE PLANT FIELD GUIDE

BITTERROOT NATIONAL FOREST

SENSITIVE PLANT FIELD GUIDE

Introduction

The Northern Region initiated a program for the identification and management of Threatened, Endangered, and Sensitive Plant Species during the past year. In March, 1988 the Regional Forester issued a Sensitive Plant Species List for the Northern Region. As part of this program, a field guide has been prepared to assist Forest personnel in the identification of Sensitive Plant Species.

Two lists provide the framework for the Northern Region Sensitive Plant Program, the Sensitive Plant Species List and the Watch Plant Species List. The following definitions for 'Sensitive' and 'Watch' are being used.

SENSITIVE PLANT SPECIES - a plant species, or recognized subspecies or variety, for which the Regional Forester has determined there is a concern for population viability, within a state, as evidenced by significant current or predicted downward trend in populations or habitat. All sensitive plant species are known to occur on National Forest land. This may include federal candidates (C1, C2, 3C) and plant species proposed for listing as threatened and endangered species on the Federal Register.

WATCH PLANT SPECIES - a plant species, or recognized subspecies or variety, that: (1) is not known to occur on National Forest land, but is predicted to occur on the basis of suitable habitat, and for which there is concern for population viability, within a state, as evidenced by significant current or predicted downward trend in populations or habitat. These taxa, if found on National Forest land would be designated sensitive plant species. This may include federal candidates (C1, C2, 3C). OR (2) is known to occur on Forest Service land, but has no immediate or predicted threats to population viability. These taxa are important to monitor in the overall biological diversity program because of limited distribution or federal status. Included in this category could be taxa endemic to a given state, or federal candidate species for which we now have evidence that populations are more widespread than previously thought and are considered secure.

These two lists are to be considered dynamic lists that will be updated annually based on new information acquired during each field season. In conducting project evaluations, species on both lists need to be considered. In order to coordinate with individual state Natural Heritage Programs both lists have been arranged on a state by state basis. In addition, the two lists have been separated into Sensitive and Watch lists for each National Forest. A list of plants by general habitat has also been prepared for each National Forest.

This field guide contains descriptions for taxa on the Sensitive Plant List only. Descriptions for Watch List taxa will be prepared in early 1989, and will be available for inclusion in these guides prior to the field season. This guide contains a summary of distribution and status, description of habitat, and a non-technical description for each sensitive plant species. For

technical descriptions of these taxa refer to Vascular Plants of the Pacific Northwest (Hitchcock et al. 1969), or the references cited in the text.

The major purpose of this guide is to provide the framework necessary to increase our knowledge of Threatened, Endangered, and Sensitive Plant taxa in the Northern Region. Please work closely with the Botany Coordinator on your forest in documenting known occurrences of these plant species, and in improving the content of this field guide. It is also important to have the identification of these sensitive plant species verified by a trained botanist. Many of these species are difficult to identify and proper identification is crucial. The Regional Botanist will provide assistance with verification.

The Region is working closely with the Natural Heritage Programs in maintaining a data base documenting occurrences of Sensitive Plant Species. It is important that local information be incorporated into the regional data base. This will greatly enhance our ability to manage for these taxa across the landscape. Sensitive Plant survey forms may be obtained from the Forest Botany Coordinator or the Botanist in the Regional Office. Regional Botanist/Diversity Ecologist, Angela Evenden, is available to help in developing National Forest botany programs. She may be reached at FTS 585-3141, (406) 329-3141, or DG to A.Evenden:R01A.

ACKNOWLEDGEMENTS

This field guide to Sensitive Plants in the Northern Region is the result of contributions from many individuals and from the Montana Natural Heritage Program. The text portion of the guide was written by Peter Lesica and Steve Shelly. Maps and distribution information were provided by the Heritage Program. Special thanks also go to the following people who assisted with editing and production of the field guide; John Pierce, Cindy Martin, Suzanne Reed, Sue Reel, Edna Sampson (and helpers), Bob Keane, and Sara Lustgraaf. Photographs were graciously provided by several individuals acknowledged below. Permission to use illustrations was granted from a variety of sources which are also acknowledged below.

-- Angela Evenden
Botanist/Diversity Ecologist

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Viola renifolia Gray
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Astragalus barrii Barneby
Lesquerella humilis Rollins
Cover Illustration
Debbie McNiel, Troy, MT

Saxifraga tempestiva Elvander & Denton
Madrono (Vol. 23:346). California Botanical Society, California Academy of Sciences. San Fransisco.

Antennaria pulcherrima(Hook.) Greene
Hulten. Flora of Alaska and Neighboring Territories. 1968. Standford University Press.

Kobresia macrocarpa Clokey ex Mack.
North American Flora 2, pl. 535. New York Botanical Garden.

Shoshonea pulvinata Evert & Constance
Evert, D.F. and L. Constance. 1982. Shoshonea pulvinata, a new genus and species of Umbelliferae from Wyoming. Systematic Botany 7(4):472.

ALL OTHER ILLUSTRATIONS ARE USED WITH PERMISSION FROM:
Hitchcock, C.L., A. Cronquist, M. Ownby, and J.W. Thompson. 1969. Vascular Plants of the Pacific Northwest. Volumes 1-5. University of Washington Press, Seattle, WA.

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Astragalus barrii Barneby
Cypripedium calceolus L. var. *parviflorum* (Salisb.) Fern.
Epipactis gigantea Dougl.
Geocaulon lividum (Richards.) Fern.
Grindelia howellii Steyermark
Howellia aquatilis Gray
Lesquerella humilis Rollins
Penstemon lemhiensis (Keck) Keck and Cronq.
Shoshonea pulvinata Evert & Constance

Steve Wirt
Epipactis gigantea Dougl.

The Nature Conservancy
Lesquerella carinata Rollins

DEFINITIONS FOR PLANT RANKINGS

STATE RANK (Used by Natural Heritage Program)

S1 Critically imperiled in the state because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extirpation from the state. (Critically endangered in state).

S2 Imperiled in the state because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extirpation from the state. (Endangered in state).

S3 Rare in the state (on the order of 20+ occurrences). (Threatened in state).

SU Possibly in peril in the state, but status uncertain; more information needed.

SH Historically known in the state; may be rediscovered.

SX Apparently extirpated from Montana.

GLOBAL RANK (Used by Natural Heritage Program)

G1 Critically imperiled globally because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction. (Critically endangered throughout range).

G2 Imperiled globally because of rarity (6 to 20 occurrences) or because of other factors demonstrably making it very vulnerable to extinction throughout its range. (Endangered throughout range).

G3 Either very rare and local throughout its range or found locally (even abundant at some of its locations) in a restricted range, or because of other factors making it vulnerable to extinction throughout its range; in the range of 21 to 100 occurrences. (Threatened throughout range).

G4 Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GU Possibly in peril range-wide, but status uncertain; more information needed.

GH Historically known; may be rediscovered.

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GH Historically known; may be rediscovered.

BITTERROOT NATIONAL FOREST

Sensitive Plant Species

Scientific name	Common name	Fed. Status
Known to occur on the Forest:		
Athysanus pusillus	Sandweed	
Castilleja covilleana	Rocky Mountain Paintbrush	
Chrysosplenium tetrandrum	Northern Golden-carpet	
Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper	
Erigeron evermannii	Evermann's Fleabane	
Eupatorium occidentale	Western Boneset	
Lesquerella humilis	Few-seeded Bladderpod	
Mimulus primuloides	Primrose Monkey-flower	
Penstemon attenuatus var. militaris	Taper-leaved Beard Tongue	
Satureja douglasii	Yerba Buena	
Saxifraga tempestiva	Storm Saxifrage	
Suspected to occur on the Forest:		
Clarkia rhomboidea	Common Clarkia	
Epipactis gigantea	Giant Helleborine	
Erigeron asperugineus	Rough Fleabane	
Haplopappus macronema var. macronema	Discoid Goldenweed	
Mertensia bella	Oregon Bluebell	
Penstemon lemhiensis	Lemhi Penstemon	C2
Salix wolfii var. wolfii	Wolf's Willow	
Selaginella watsonii	Watson's Selaginella	

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BITTERROOT NATIONAL FOREST

Watch Plant Species

Scientific name	Common name	Fed. Status
Known to occur on the Forest:		
Erigeron linearis	Desert Yellow Daisy	
Orogenia linearifolia	Great Basin Orogenia	
Trifolium eriocephalum var. piperi	Woolly-head Clover	
Trifolium gymnocarpon	Hollyleaf Clover	
Suspected to occur on the Forest:		
Arabis fecunda	Sapphire Rockcress	C2
Arenaria kingii	King's Sandwort	
Carex occidentalis	Western Sedge	
Castilleja longispica	White Paintbrush	
Gentianopsis simplex	Hiker's Gentian	
Orobanche corymbosa	Flat-topped Broomrape	
Pedicularis contorta var. ctenophora	Coil-beaked Lousewort	
Trisetum orthochaetum	Bitterroot Trisetum	C2

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BITTERROOT NATIONAL FOREST

Sensitive Plants by Habitat

Moist Forests

Cypripedium calceolus v. parviflorum
Mertensia bella ?
Satureja douglasii

Dry Forests

Clarkia rhomboidea ?

Subalpine Forests

Lesquerella humilis
Mertensia bella ?
Penstemon attenuatus var. militaris

Upper Timberline Areas

Erigeron asperugineus ?
Haplopappus macronema var. macronema ?
Lesquerella humilis
Saxifraga tempestiva

Alpine Areas

Erigeron asperugineus ?
Erigeron evermannii
Haplopappus macronema var. macronema ?
Lesquerella humilis
Saxifraga tempestiva
Selaginella watsonii ?

Seeps & Springs

Chrysosplenium tetrandrum
Epipactis gigantea ?

Grasslands

Penstemon attenuatus var. militaris
Penstemon lemhiensis ?

Meadows

Cypripedium calceolus v. parviflorum
Penstemon attenuatus var. militaris

Rocky Areas

Athysanus pusillus
Castilleja covilleana
Chrysosplenium tetrandrum
Eupatorium occidentale
Haplopappus macronema var. macronema ?
Lesquerella humilis
Selaginella watsonii ?

Bogs & Fens

Cypripedium calceolus v. parviflorum
Mimulus primuloides
Salix wolfii var. wolfii ?

Stream Banks & Lake Margins

Athysanus pusillus
Epipactis gigantea ?
Salix wolfii var. wolfii ?

? = Sensitive plant species on the Regional Foresters List suspected to occur on the Bitterroot National Forest.
(All others on list are known to occur on the Forest)

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(All others on list are known to occur on the Forest)

----- WATCH PLANT SPECIES LIST -----

STATE: MONTANA

Scientific name	Common name	Federal Status	National Forest Presence								
			BH	BT	CU	DL	FL	GA	HE	KO	LC	LO
Agoseris lackschewitzii	Pink Agoseris		Y		?	Y		Y	?		Y	
Aquilegia brevistyla	Short-styled columbine										?	
Arabis fecunda	Sapphire Rockcress	C2		?		?						?
Arenaria kingii	King's Sandwort		Y	?		?						
Asplenium trichomanes	Maidenhair Spleenwort		?			?	?		?	?	?	
Astragalus leptaleus	Park Milkvetch		?			?	?	?	?		?	?
Balsamorhiza macrophylla	Large-leaved Balsamroot		?					?				
Botrychium crenulatum	Wavy Moonwort	C2					?			?		?
Botrychium minganense	Mingan Island Moonwort						Y			?	?	?
Cardamine rupicola	Cliff Toothwort	3C					Y		?		Y	?
Carex lenticularis var. dolia	Goose-grass Sedge	C2					?					
Carex multicostata	Many-ribbed Sedge		?			?		?				
Carex occidentalis	Western Sedge		Y	?		?		?				
Castilleja gracillima	Slender Paintbrush		?					?				
Castilleja longispica	White Paintbrush		?	?		?		?				
Cirsium longistylum	Long-styled Thistle								?		Y	
Cypripedium fasciculatum	Clustered Lady's-slipper	3C					?			?		?
Delphinium andersonii	Anderson's Larkspur		?			?		?				
Erigeron eatonii var. eatonii	Eaton's Daisy		?		?			?				
Erigeron lackschewitzii	Front Mountain Erigeron						Y		?		Y	
Erigeron linearis	Desert Yellow Daisy		?	Y								
Eriophorum viridicarinatum	Green-keeled Cottonsedge		Y			?	?		?	?	?	?
Gentianopsis simplex	Hiker's Gentian		?	?								?
Juncus hallii	Hall's Rush		Y		?	?		Y	Y			
Kobresia simpliciuscula	Simple Kobresia				?		?				?	
Lesquerella klausii	Divide Bladderpod								Y		Y	
Ligusticum filicinum	Fern-leaf Lovage		Y					?				
Ligusticum porteri	Porter's Lovage				?			?				
Mentzelia montana	Mountain Blazing Star				?			?				
Mentzelia nuda	Bractless Mentzelia				?							
Orobanche corymbosa	Flat-topped Broomrape		?	?		?						
Orogenia linearifolia	Great Basin Orogenia		?	Y								Y
Pedicularis contorta var. ctenophora	Coil-beaked Lousewort		Y	?		?						
Phlox kelseyi var. missoulensis	Missoula Phlox	3C				?			Y		Y	?
Polygonum douglasii var. austinae	Austin's Knotweed					?			Y		Y	
Polystichum kruckebergii	Kruckeberg's Sword-fern	3C	?			Y	?				?	?
Rorippa calycina	Persistent Yellowcress	C2			?						?	
Scirpus cyperinus	Wool Grass									?		?
Scirpus subterminalis	Water Bulrush						Y		Y	Y	?	?
Silene spaldingii	Spalding's Catchfly	C2					?			?		?
Synthyris canbyi	Canby's Synthyris	3C					Y					Y
Thlaspi parviflorum	Small-flowered Pennycress		?		?	?		?				
Trifolium eriocephalum var. piperi	Woolly-head Clover		?	Y								?
Trifolium gymnocarpon	Hollyleaf Clover		?	Y								?
Trisetum orthochaetum	Bitterroot Trisetum	C2		?								Y
Zizia aurea	Golden Alexanders						?			?		

National Forest Presence indicates which species are KNOWN to occur on a given National Forest (Y = yes), and which species are SUSPECTED to occur on the National Forest (? = suspected).

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STATE: MONTANA

----- SENSITIVE PLANT SPECIES LIST -----

Scientific name	Common name	Federal Status	National Forest Presence									
			BH	BT	CU	DL	FL	GA	HE	KO	LC	LO
Allium fibrillum	Fringed Onion						?			Y		?
Antennaria pulcherrima	Showy Pussytoes		?			?					Y	
Astragalus barrii	Barr's Milkvetch	C2			Y							
Astragalus molybdenus	Leadville Milkvetch						?		?		Y	
Athysanus pusillus	Sandweed			Y								?
Botrychium paradoxum	Peculiar Moonwort	C2	?			Y	?		?		Y	?
Calamagrostis tweedyi	Cascade Reedgrass	C2								?		Y
Carex idahoa	Idaho Sedge	3C	Y			Y						?
Carex livida	Pale Sedge						?		Y		?	
Carex paupercula	Poor Sedge						?		?		?	Y
Castilleja covilleana	Rocky Mountain Paintbrush		?	Y								
Ceanothus herbaceus	New Jersey Tea				Y							
Chrysosplenium tetrandrum	Northern Golden-carpet			Y			?			?		?
Cirsium subniveum	Jackson's Hole Thistle		Y					?				
Clarkia rhomboidea	Common Clarkia			?						?		Y
Claytonia lanceolata var. flava	Yellow Springbeauty	C2	?			Y		Y				
Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper			Y			Y			Y	Y	?
Cypripedium passerinum	Sparrow's-egg Lady's-slipper						Y		?	?	Y	?
Drosera linearis	Linear-leaved Sundew						?		Y		?	
Epipactis gigantea	Giant Helleborine		?	?	?	?	Y	?	?	?	?	?
Erigeron asperugineus	Rough Fleabane		Y	?								
Erigeron evermannii	Evermann's Fleabane		?	Y								
Erigeron flagellaris	Trailing Fleabane		?			?			?		Y	
Eupatorium occidentale	Western Boneset		?	Y						?		Y
Geocaulon lividum	Northern Bastard Toad-flax						Y			Y		?
Grindelia howellii	Howell's Gumweed	C2					?			?		Y
Haplopappus macronema var. macronema	Discoid Goldenweed		Y	?		?		?				
Howellia aquatilis	Water Howellia	C2					Y			?		?
Kobresia macrocarpa	Large-fruited Kobresia				Y			?				
Lesquerella carinata	Keeled Bladderpod	3C	?			Y						?
Lesquerella humilis	Few-seeded Bladderpod			Y								
Lomatium geyeri	Geyer's Biscuit-root						?			Y		
Mertensia bella	Oregon Bluebell			?								Y
Mimulus primuloides	Primrose Monkey-flower		Y	Y		?						
Orchis rotundifolia	Round-leaved Orchis						Y		?	?	Y	?
Oxytropis columbiana	Columbia River Crazy Weed						Y			?		
Oxytropis podocarpa	Stalked-pod Crazyweed		?			?	?		?		Y	
Penstemon attenuatus var. militaris	Taper-leaved Beard Tongue		?	Y								
Penstemon lemhiensis	Lemhi Penstemon	C2	Y	?		?						
Potamogeton obtusifolius	Blunt-leaved Pondweed						Y				?	?
Ranunculus jovis	Jove's Buttercup		?			?		Y				
Salix barrattiana	Barratt Willow				Y		?	?			?	
Salix wolfii var. wolfii	Wolf's Willow		Y	?	?	Y		?				
Satureja douglasii	Yerba Buena			Y						?		Y
Saussurea densa	Dwarf Saw-wort						?				Y	
Saussurea weberi	Weber's Saw-wort	3C	Y			Y						
Saxifraga tempestiva	Storm Saxifrage		Y	Y		Y						
Selaginella watsonii	Watson's Selaginella		Y	?		?						
Shoshonea pulvinata	Shoshonea	C2			Y							
Thalictrum alpinum	Alpine Meadowrue		Y			?		?	?		?	
Viola renifolia	Kidney-leaved Violet						Y			?	?	?

National Forest Presence indicates which species are KNOWN to occur on a given National Forest (Y = yes), and which species are SUSPECTED to occur on the National Forest (? = suspected).

ATHYSANUS PUSILLUS (Hook.) Greene
Sandweed

FAMILY: Brassicaceae (Mustard Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION: Southern B.C. to CA, east to MT, ID and UT.

MONTANA COUNTIES: Ravalli.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns.

NATIONAL FOREST(S): Bitterroot; possibly occurring on Lolo.

HABITAT:
Vernally moist, shallow soil on open, rocky shelves and along small drainages, in the foothill and lower montane zones; 1200-1525 m (4000-5000 ft).

DESCRIPTION:
These small annuals are branched at the base, and usually less than 10 cm (4 in) tall. The lance-shaped or spoon-shaped leaves are alternate on the stem, and 6-30 mm long with toothed margins. The lower leaves have short petioles; the upper are smaller and sessile. The herbage is covered with coarse, simple and branched hairs. Each branch terminates in a long, narrow inflorescence bearing many small flowers that quickly bloom and produce fruit. Each flower and fruit is borne on a slender recurved stalk. The four petals are white and 1-2 mm long. The sepals are approximately 1 mm long and glabrous or slightly hairy. The fruit is globose, 2-3 mm in diameter, and covered with hooked hairs. Flowers in April and May.

This species is most likely to be confused with annual members of the genus Draba; however, none of these have fruits covered with hooked hairs.

COMMENTS: This species becomes much more common to the west.

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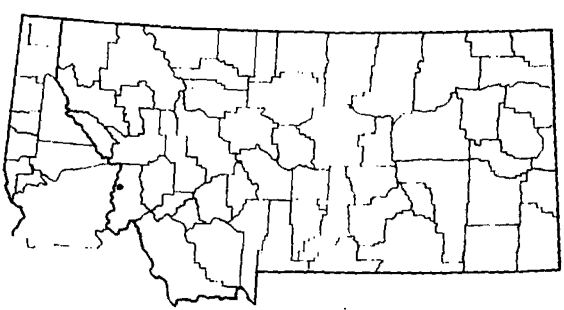
ATHYSANUS PUSILLUS



ATHYSANUS PUSILLUS

CASTILLEJA COVILLEANA Hend.
Rocky Mountain Paintbrush

FAMILY: Scrophulariaceae (Figwort Family)

SYNONYMS: C. MULTISECTA A. Nels.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G3G4/S1

GLOBAL DISTRIBUTION: Central ID and adjacent MT.

MONTANA COUNTIES: Ravalli.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns.

NATIONAL FOREST(S): Bitterroot; potentially occurring on Beaverhead.

HABITAT:
Rocky mountain slopes, terraces, and summits; 2070-2650 m (6000-8700 ft).

DESCRIPTION:
This perennial paintbrush has clusters of several unbranched, erect or ascending stems up to 30 cm (12 in) tall. The leaves, all except the lowermost ones, are deeply divided into 3-7 spreading, linear lobes, and are alternate on the stem. The herbage is covered with long, soft hairs. The inflorescence is usually bright red or scarlet, but may be orange or even red. It is short and compact at first, but elongates greatly at maturity. The colored flower bracts are deeply 5-7 parted, and at least as long as the flowers. The corolla is 20-35 mm long, and the hooded upper lip is 1/2-2/3 the length of the tubular portion. The calyx is 15-25 mm long, and more deeply divided above than below. Flowering late June to early August.

This species can be told from other red paintbrushes in its range by the covering of long, soft hairs (rather than stiff and straight), and the middle leaf segments that are almost as narrow as the lateral segments.

COMMENTS:
A well-defined regional endemic species. Known in MT from three collections in the Bitterroot Mtns. southwest of Darby.

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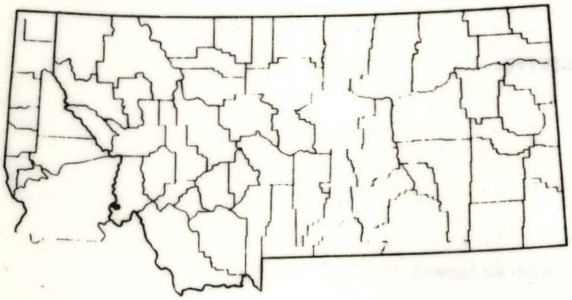
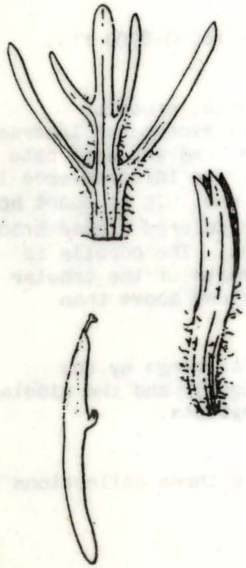
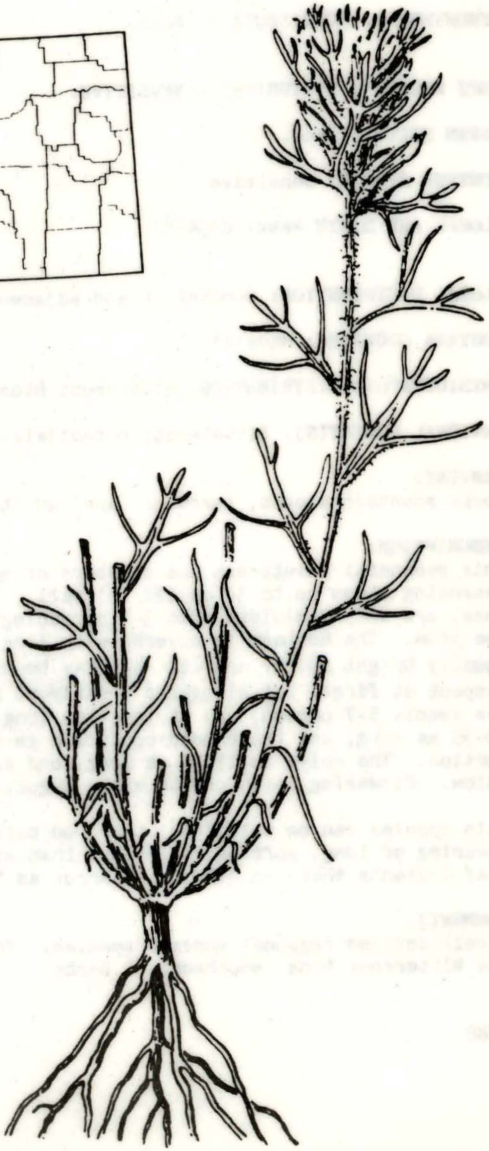
CASTILLEJA COVILLEANA







CASTILLEJA COVILLEANA

CHRYSOSPLENIUM TETRANDRUM (Lund) Fries
Northern Golden-carpet

FAMILY: Saxifragaceae (Saxifrage Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4G5/S1

GLOBAL DISTRIBUTION: Circumpolar, south in North America to B.C., WA and CO.

MONTANA COUNTIES: Ravalli.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns.

NATIONAL FOREST(S):
Bitterroot; possibly occurring on Flathead, Kootenai, Lolo.

HABITAT:
Seeps, wet rock ledges and banks in the montane zone; 1220-1525 m (4000-5000 ft) in MT.

DESCRIPTION:
This is a small, creeping perennial, with branching stems up to 15 cm (6 in) long that root at the nodes and are erect at the tips. The alternate leaves are chiefly clustered at the base or near the tips of the stems. They are oval or kidney-shaped, 5-10 mm broad, with petioles up to 2 cm long, and are deeply scalloped on the margins. The herbage is glabrous. The small flowers are borne in loose, few flowered clusters at the ends of the stems. They lack petals, but have 4 green sepals that are approximately 1 mm long. The fruit is a two-lobed capsule, partially embedded in the calyx cup. Flowering in June and July.

The stoloniferous habit and small apetalous flowers set this species apart from other saxifrages in its habitat.

COMMENTS:
Collected only once in Montana, this small plant may easily be overlooked.

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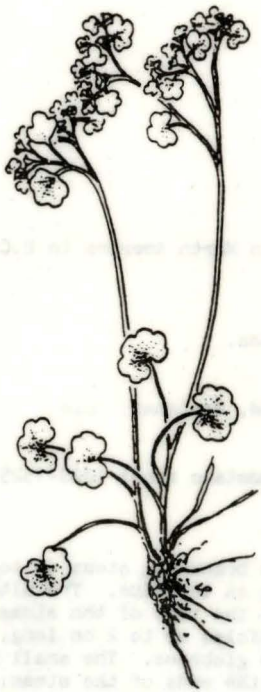
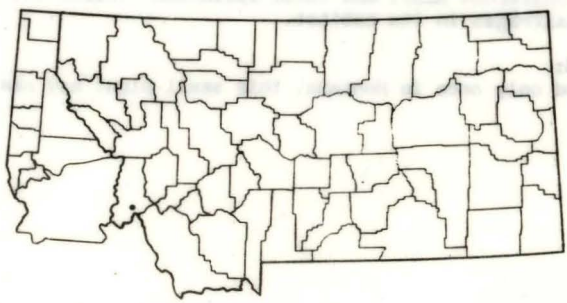
CHRYSOSPLENIUM TETRANDRUM





CLARKIA RHOMBOIDEA Dougl.
Common Clarkia

FAMILY: Onagraceae (Evening Primrose Family)

SYNONYMS:
OENOTHERA RHOMBOIDEA Levl.; PHAEOSTOMA RHOMBOIDEA A. Nels.; C. GAUROIDES Dougl. ex Sweet.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION:
Southern B.C. southward to s. CA, e. to ID, w. MT, UT, and AZ.

MONTANA COUNTIES: Sanders.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns.

NATIONAL FOREST(S):
Lolo; potentially occurring on Bitterroot, Kootenai.

HABITAT:
Dry, open forests, to woods and slopes in the mountains; approximately 1830 m (6000 ft) in MT.

DESCRIPTION:
This annual clarkia has mostly unbranched stems 15-50 cm (6-20 in) tall. The few leaves are opposite, with petioles 1-3 cm long and lance-shaped to elliptic, entire margined blades 2-7 cm (1-3 in) long. The herbage is sparsely covered with short hairs. The few flowers are borne in a loose, narrow, nodding inflorescence terminating the stem. The four separate petals are spoon-shaped, 5-10 mm long, and rose-purple, often with purple dots. The ovary is club-shaped and below the point of attachment of the petals. The fruits are capsules 1.5-3 cm long, with a short beak at the tip. Flowering in July.

Clarkia rhomboidea is most easily confused with species of Epilobium, but can be distinguished by having seeds without a tuft of hairs at the tip.

COMMENTS:
This species is peripheral in Montana, and is more common to the west and south.

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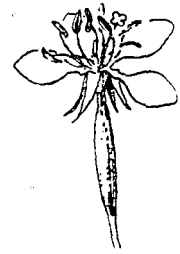
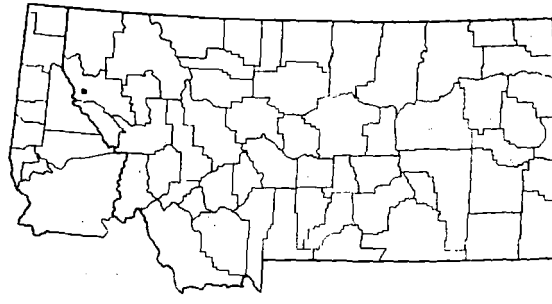
CLARKIA RHOMBOIDEA





CYPRIPEDIUM CALCEOLUS L. var. PARVIFLORUM (Salisb.) Fern.
Small Yellow Lady's-slipper

FAMILY: Orchidaceae (Orchid Family)

SYNONYMS:
C. PARVIFLORUM Salisb.; C. LUTEUM var. PARVIFLORUM Raf.; CYPRIPEDILUM PARVIFLORUM Stein; C. HIRSUTUM var. PARVIFLORUM Rolfe; C. BULBOSUM var. PARVIFLORUM Farw.; CALCEOLUS PARVIFLORUS Nieuwl.

USFS REGION 1 STATUS: MT - SENSITIVE; ID - WATCH.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4T3/S2

GLOBAL DISTRIBUTION:
B.C. to WA and OR, e. of the Cascade crests, to ID, ND and eastern US.

MONTANA COUNTIES:
Flathead, Granite, Lake, Lewis & Clark, Lincoln, Missoula, Stillwater, Teton.

PHYSIOGRAPHIC DISTRIBUTION: Western and s.-central Mtns., Swan Valley.

NATIONAL FOREST(S):
Flathead; potentially occurring on Kootenai, Lewis & Clark, and Lolo.

HABITAT:
Bogs, damp mossy woods, seepage areas, and moist forest-meadow ecotones, at mid-elevations; 915-1890 m (3000-6200 ft).

DESCRIPTION:
This species of lady's-slipper has leafy stems 15-40 cm (6-16 in) tall from a short rhizome. The elliptic leaves are 6-17 cm (2-7 in) long, and sheath the stem. The foliage is lightly pubescent and usually glandular. The 1-2 yellow flowers are subtended by an erect leafy bract, often longer than the inflorescence. The narrow sepals are up to 4 cm long, and wavy-margined or slightly twisted. One petal is strongly pouch-shaped and often purple-dotted. The other 2 petals are united into one that is similar to the sepals but slightly longer. The fruit is an elliptic capsule bearing many thousands of tiny seeds. Flowering late May and June.

This is is our only yellow-flowered lady's-slipper.

COMMENTS:
A widespread, but sparsely occurring, variety. It is often found in or near habitats which are susceptible to timber harvesting.

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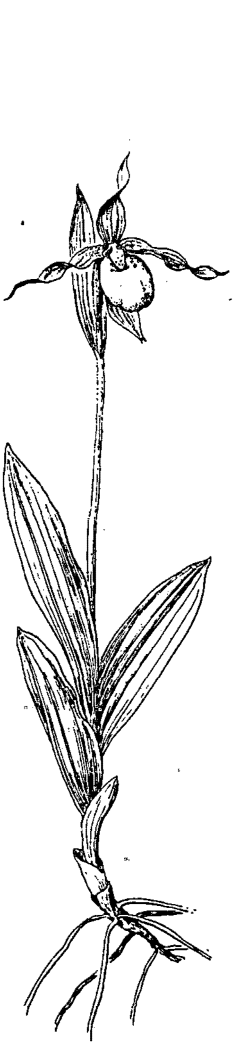
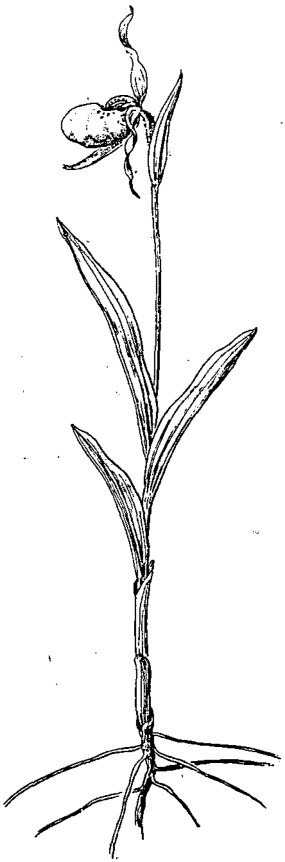
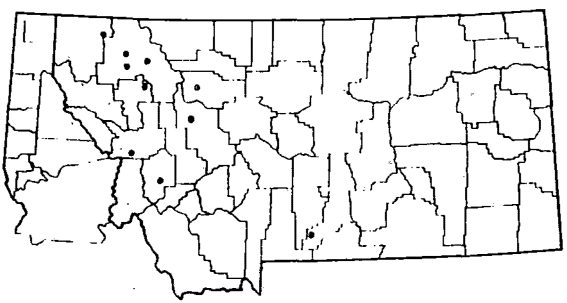
CYPRIPEDIUM CALCEOLUS var. PARVIFLORUM







CYPRIPEDIUM CALCEOLUS var. PARVIFLORUM

EPIPACTIS GIGANTEA Dougl.
Giant Helleborine

FAMILY: Orchidaceae (Orchid Family)

SYNONYMS:
LIMODORUM GIGANTEUM Kuntze; PERAMIUM GIGANTEUM Coult.; SERAPIAS GIGANTEA Eat.; HELLEBORINE GIGANTEA Druce; AMESIA GIGANTEA Nels. & Macbr.

USFS REGION 1 STATUS: MT - SENSITIVE; ID - WATCH.

USFWS STATUS: None.

MONTANA STATUS: Threatened.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION:
B.C. s. to Baja CA, and in most of w. U.S. to the Rocky Mtns. and s. to n. Mexico.

MONTANA COUNTIES:
Carbon, Flathead, Granite, Lake; historically known from the Sun River Canyon (Lewis & Clark or Teton).

PHYSIOGRAPHIC DISTRIBUTION:
Pryor Mtn. foothills, mtns. west of Continental Divide, and possibly Front Range Mtns.

NATIONAL FOREST(S):
Flathead; possibly occurring on all nine other National Forests in MT.

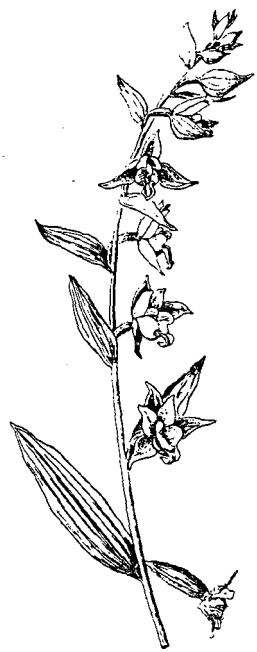
HABITAT:
Streambanks, lake margins, and around springs and seepage areas, often near thermal waters; 885-1250 m (2900-4100 ft).

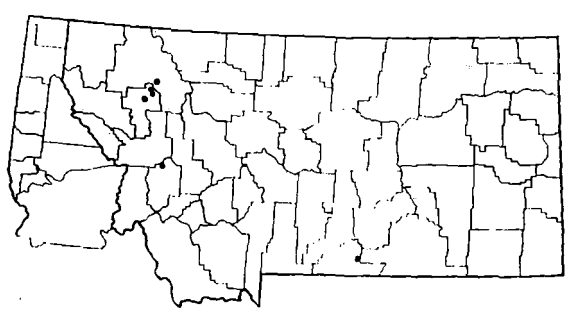
DESCRIPTION:
Giant helleborine is a large perennial herb, with leafy stems 30-100 (1-3 ft) tall from short rhizomes. The leaves are without petioles and up to 20 cm (8 in) long. The lower are ovate; the upper are lance-shaped. The herbage is rough to the touch or smooth and glabrous. The numerous flowers are borne singly in a long, narrow, leafy-bracted inflorescence at the top of the stems. The lance-shaped sepals are green with brownish stripes and approximately 15 mm long. The two upper petals are shorter and broader than the sepals. The lower petal is sac-like, and longer and more reddish than the sepals. The nodding capsule is elliptic and bears many thousands of tiny seeds. Flowering late June through August.

This is one of our most distinctive orchids, and is not easily confused with any other species.

COMMENTS:
The only native member of its genus in Canada and the United States. Some sites in Montana appear to have been extirpated since their discovery. It is currently known from five sites in the state.

EPIPACTIS GIGANTEA





ERIGERON ASPERUGINEUS (Eat.) Gray
Rough Fleabane

FAMILY: Asteraceae (Sunflower Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION: Central ID, ne. NV and sw. MT.

MONTANA COUNTIES: Beaverhead.

PHYSIOGRAPHIC DISTRIBUTION: Lima Peaks (Beaverhead Mtns.).

NATIONAL FOREST(S): Beaverhead; possibly occurring on Bitterroot.

HABITAT:
Open soil and scree near or above timberline; 2425-2750 m (8000-9000 ft).

DESCRIPTION:
Rough fleabane is a small perennial herb, 2-20 cm (1-8 in) tall, with 1-few stems from a slender taproot. The basal leaves are up to 10 cm (4 in) long, and have a broadly lance-shaped to nearly round blade and a long petiole. The few stem leaves are smaller and reduced upwards. The herbage is densely covered with short spreading hairs. The daisy-like, flowering heads are solitary (occasionally 2) at the ends of the stalks. The involucral bracts are 5-9 mm long and covered with glands and spreading hairs. The 10-25 deep blue or violet rays that compose the "petals" of the flowering head are 5-10 mm long. The disk corollas in the center of the head are 4-6 mm long. The "seeds" (achenes) have 20-30 bristles (pappus) at the top. Flowering July and August.

Erigeron is a large and very difficult genus. Many species, including E. tweedyi, E. caespitosus, E. gracilis, and E. rydbergii can be confused with E. asperugineus. A technical key should be consulted in order to make a determination.

COMMENTS:
The one known Montana population occurs in calcareous soil, in an area otherwise dominated by crystalline rock.

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ERIGERON ASPERUGINEUS

ERIGERON EVERMANNII Rydb.
Evermann's Fleabane.

FAMILY: Asteraceae (Sunflower Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4G5/S1

GLOBAL DISTRIBUTION: Central ID to sw. MT.

MONTANA COUNTIES: Ravalli.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns.

NATIONAL FOREST(S): Bitterroot; possibly occurring on Beaverhead.

HABITAT:
Shifting talus slopes and dry, rocky meadows in the high mountains; 2620-3050 m (8600-10000 ft).

DESCRIPTION:
This dwarf perennial species has stems up to 10 cm (4 in) tall from a branched rootstock, and a long, deep-seated taproot. The glabrous basal leaves are up to 4 cm (2 in) long, spoon-shaped, and rounded at the tip. The stem leaves are greatly reduced or lacking. The flowering heads are solitary at the ends of the stems. The rays that compose the "petals" of the flowering head are 6-10 mm long, and white or occasionally light blue. The involucral bracts are 5-8 mm long, spreading hairy, and usually glandular. The "seeds" (achenes) have 25-35 unequal-length bristles (pappus) at the top. Flowering July and August.

Erigeron is a very large and difficult genus. The almost complete absence of stem leaves and the shifting talus habitat are good distinguishing characters for E. evermannii.

COMMENTS:
A regional endemic species in a large, taxonomically complex genus. Currently known from two sites in Montana.

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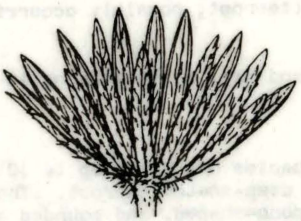
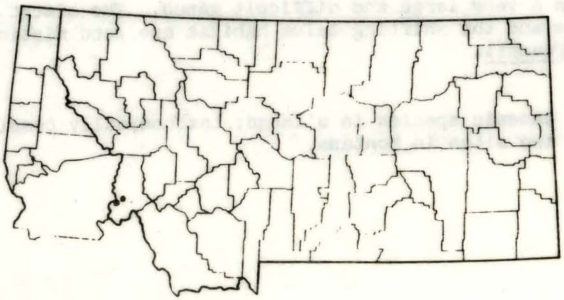
ERIGERON EVERMANNII





EUPATORIUM OCCIDENTALE Hook.
Western Boneset

FAMILY: Asteraceae (Sunflower Family)

SYNONYMS: E. OCCIDENTALE var. DECEMPLEX A. Nels.

USFS REGION 1 STATUS: MT - SENSITIVE; N. ID - NONE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION: Central WA, ID, and w. MT, s. to CA and UT.

MONTANA COUNTIES: Mineral, Ravalli.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns.

NATIONAL FOREST(S):
Bitterroot, Lolo; possibly occurring on Beaverhead, Kootenai.

HABITAT:
Rocky places at a wide range of elevations; 1950-2135 m (6400-7000 ft).

DESCRIPTION:
Western boneset is a rhizomatous perennial herb with clustered stems, often woody at the base, and 15-70 cm (6-28 in) tall. The alternate leaves are triangular or ovate in outline and 2-7 cm (1-3 in) long with toothed margins. The lower leaves are reduced and early deciduous. The lower leaf surfaces ha small unstalked glands. The flowering heads are borne in an open, branched inflorescence. The involucral bracts are 3-5 mm long and mostly all equal in length. The heads lack ray flowers. There are 9-21 purple or pink disk flowers in each head. The top of the "seed" (achene) bears a tuft of numerou fine bristles. Flowering in August.

This species could be confused with Brickellia grandiflora or Saussurea americana, but both can be distinguished from E. occidentale by having the involucral bracts in many series of different lengths.

COMMENTS: A species occurring peripherally in western MT.

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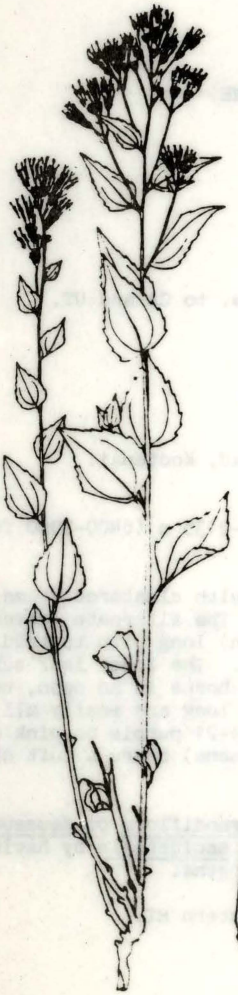
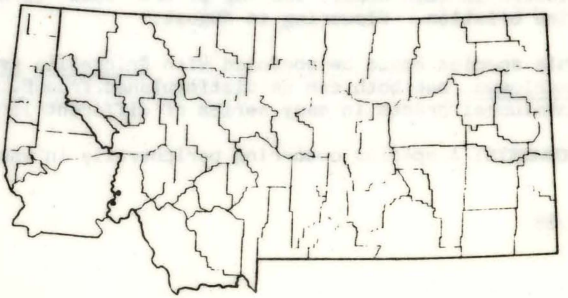
EUPATORIUM OCCIDENTALE





HAPLOPAPPUS MACRONEMA Gray var. MACRONEMA
Discoid Goldenweed

FAMILY: Asteraceae (Sunflower Family)

SYNONYMS:
MACRONEMA DISCOIDEUM Nutt.; ASTER MACRONEMA Kuntze; BIGELOVIA MACRONEMA Jones; HAPLOPAPPUS DISCOIDEUS Hall & Hall; MACRONEMA LINEARE Rydb.; HAPLOPAPPUS MACRONEMA ssp. LINEARIS Hall.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION:
Central ID, sw. MT, and w. WY, to CO, UT, se. OR, and CA.

MONTANA COUNTIES: Beaverhead.

PHYSIOGRAPHIC DISTRIBUTION: Pioneer Mtns.

NATIONAL FOREST(S):
Beaverhead; possibly occurring on Bitterroot, Deerlodge, Gallatin.

HABITAT:
Rocky, open or sparsely wooded slopes, often in coarse talus, at high elevations in the mountains, often above timberline; 2330 m (7640 ft) in MT.

DESCRIPTION:
This is a low, rounded shrub with leafy stems 15-40 cm (6-16 in) tall. The leaves are lance-shaped, widest above the middle, 1-3 cm long, and wavy-margined. The leaves and inflorescence are glandular, while the stem is densely white-hairy. Flowering heads are borne in clusters of 1-3 at the ends of branches. The glandular-hairy involucral bracts are 8-15 mm long; the outer are broader and more leafy than the inner. Ray flowers are lacking. The 10-25 disk flowers are yellow and 8-11 mm long. The "seeds" (achenes) have numerous fine bristles on top. Flowering in late July and August.

The more common H. suffruticosus does not have densely white-hairy stems.

COMMENTS:
The only report of this species in MT is from a specimen collected in 1920, near Storm Peak in the east Pioneer Mtns. Field surveys are needed to determine the status of the species in Region 1.

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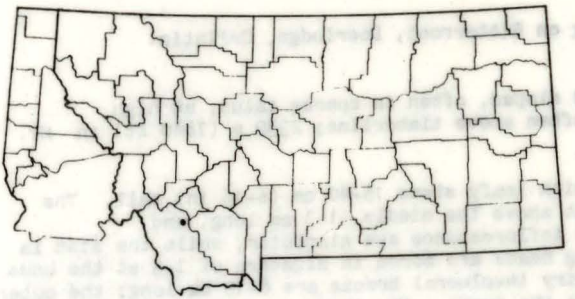
HAPLOPAPPUS MACRONEMA var. MACRONEMA



LESQUERELLA HUMILIS Rollins
Few-seeded Bladderpod

FAMILY: Brassicaceae (Mustard Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G1/S1

GLOBAL DISTRIBUTION: Ravalli County, MT.

MONTANA COUNTIES: Ravalli.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mountains.

NATIONAL FOREST(S): Bitterroot.

HABITAT:
Subalpine and alpine slopes, in krummholz zone and higher; in open, rocky areas on granitic substrates; 2680-2923 m (8800-9587 ft).

DESCRIPTION:
A small, low perennial, this plant has 1-several unbranched stems 2-5 cm (1-2 in) long, from a simple taproot covered with old leaf bases. The basal leaves are 2-5 cm long and have entire-margined, ovate or elliptic blades and a long, narrow petiole. The 3-6 stem leaves are spoon-shaped and 3-7 mm long. The herbage is silvery with a dense covering of appressed, branched hairs. The small, terminal inflorescence is 3-5 flowered. The four yellow petals are 7-9 mm long. The compressed fruits are 3-4 mm long, and wider than long. Flowering in late June and July, fruiting in July and early August.

L. humilis could be confused with Physaria geyeri, as well as other members of Lesquerella. The alpine habitat is probably the best distinguishing character. L. humilis can be distinguished from other alpine species in the mustard family by the compressed fruits that are wider than long.

COMMENTS:
This species is a recently described narrow endemic, found only on three summits in the Bitterroot Range in Montana. Field surveys throughout this mountain range have not revealed the presence of any other populations.

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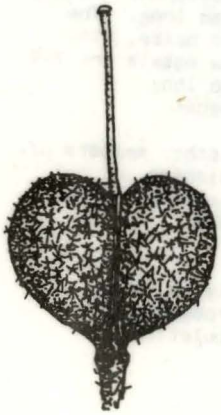
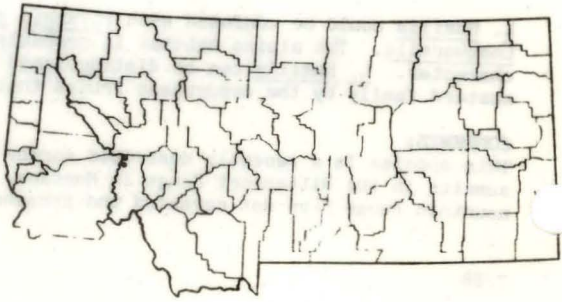
LESQUERELLA HUMILIS






Vivitar

MERTENSIA BELLA Piper
Oregon Bluebells

FAMILY: Boraginaceae (Borage Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE; ID - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Threatened.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION:
Southwest OR, disjunct in central ID and adjacent MT.

MONTANA COUNTIES: Missoula.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns.

NATIONAL FOREST(S): Lolo; possibly occurring on Bitterroot.

HABITAT:
Wet, seepy, open or partially shaded slopes in the upper montane or lower subalpine zones; approximately 1860 m (6100 ft).

DESCRIPTION:
This species is a perennial herb with solitary stems 10-40 cm (4-16 in) tall from a bulb-like root. The ovate leaves are thin, entire-margined, evidently veiny, and 38 cm (1-3 in) long. The lowermost are reduced to membranous sheaths; the others have progressively reduced petioles upwards on the stem. The herbage is mostly glabrous. The blue flowers are stalked, and born in open inflorescences at the top of the stem and in the axils of the upper leaves. The lower two thirds of the 5 petals are united into a bell-shaped corolla 6-10 mm long. The calyx is 2-3 mm long and sparsely hairy. Flowering in late May and June.

The bell-shaped flowers, which lack a distinct lower tubular portion and flaring upper portion, distinguish this species from all other bluebells.

COMMENTS:
The one known Montana population is in an area that has been logged, and is also adjacent to an active mining operation.

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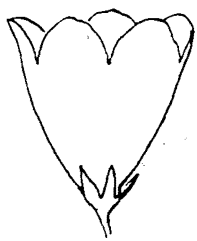
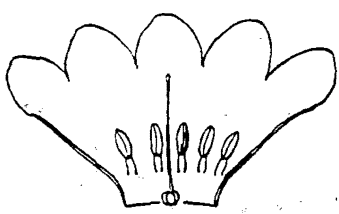
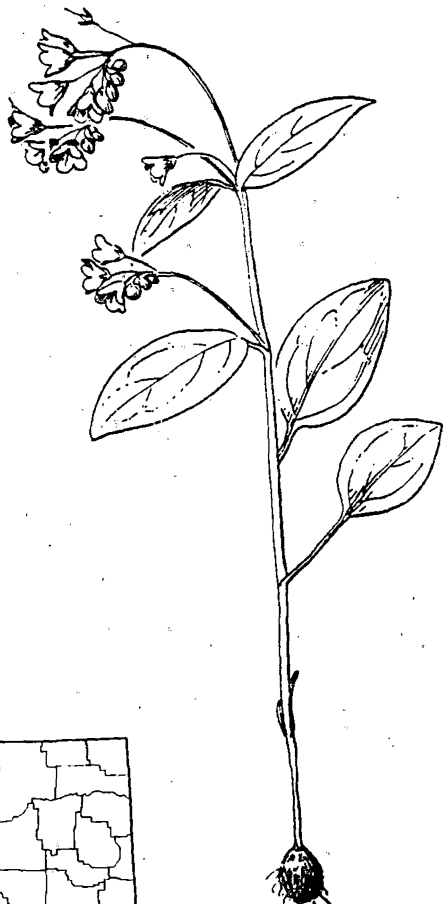
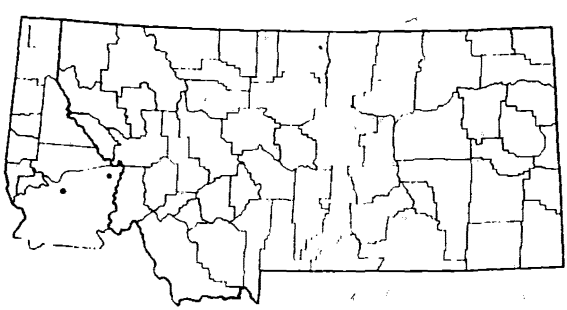
MERTENSIA BELLA









MIMULUS PRIMULOIDES Benth.
Primrose Monkey-flower

FAMILY: Scrophulariaceae (Figwort Family)

SYNONYMS:
M. PILOSELLUS Greene; M. PRIMULOIDES var. PILOSELLUS Smiley; M.PRIMULOIDES var. MINIMUS Peck.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION: WA to CA, e. to sw. MT and AZ.

MONTANA COUNTIES: Beaverhead, Ravalli.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns., Pioneer Mtns.

NATIONAL FOREST(S): Beaverhead, Bitterroot; possibly occurring on Deerlodge.

HABITAT:
Wet meadows and other moist, mostly open places at moderate to rather high elevations in the mountains; 1220-2440 m (4000-8000 ft).

DESCRIPTION:
This small perennial herb forms mats of small rosette-like plants from a network of thin shallow-rooted rhizomes. The stems are up to 6 cm (2 in) tall. The lanceshaped leaves are mostly entire-margined, without petioles, and 7-25 mm long. The foliage is covered with both stiff and soft hairs (sometimes glabrous), and is also often sticky. The flowers are solitary on the end of stalks longer than the leafy stems. The yellow corollas, 1-2 cm long, are two-lipped, and formed of petals united most of their length into a tube with flaring, notched lobes. The narrow calyx is 4-8 mm long and also formed of united segments. Flowering July through early September.

The combination of yellow flowers and leaves clustered near the base separates this species from other perennial monkeyflowers in our area.

COMMENTS:
In Montana, this species has been found in sphagnum bogs, which often provide valuable palynological records. One site (Lost Trail Bog) is adjacent to a ski area.

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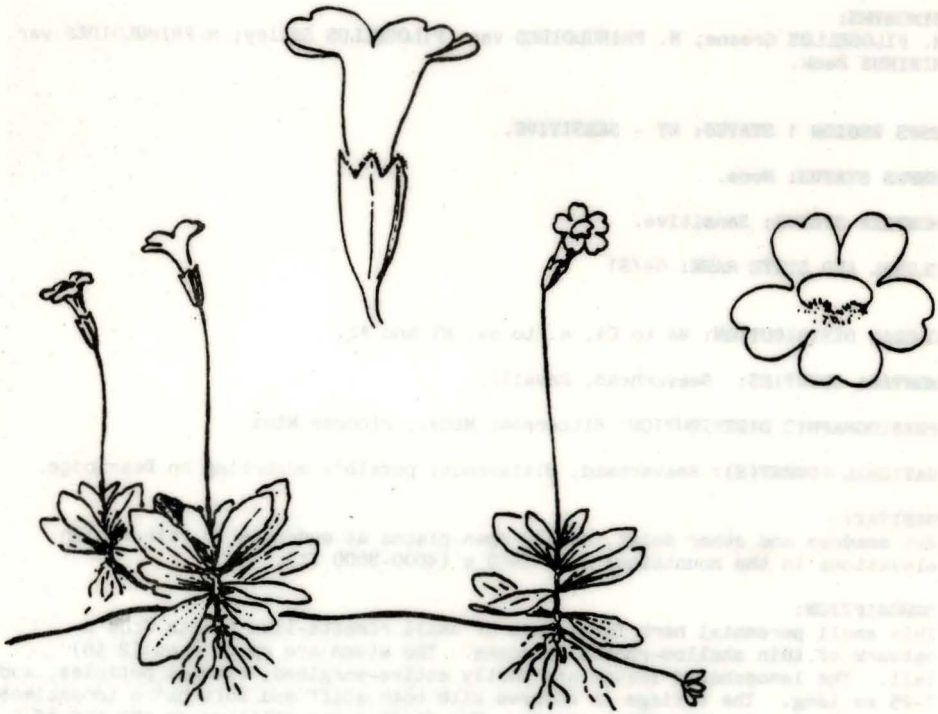
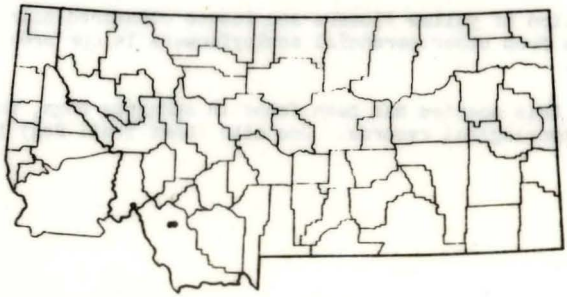
MIMULUS PRIMULOIDES





PENSTEMON ATTENUATUS Dougl. var. MILITARIS (Greene) Cronq.
Taper-leaved Beardtongue

FAMILY: Scrophulariaceae (Figwort Family)

SYNONYMS: P. MILITARIS Greene; P. ATTENUATUS ssp. MILITARIS Keck.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4T4/S1

GLOBAL DISTRIBUTION:
Central ID, from the Salmon R. axis on the n. to the Snake R. plains on the s., barely extending into adjacent MT; also in the mtns. of Cassia Co., ID.

MONTANA COUNTIES: Ravalli.

PHYSIOGRAPHIC DISTRIBUTION: Bitterroot Mtns.

NATIONAL FOREST(S): Bitterroot; possibly occurring on Beaverhead.

HABITAT:
Drier meadows to moist, open or wooded slopes at moderate to rather high elevations in the mountains; 2439 m (8000 ft) in MT.

DESCRIPTION:
Taper-leaved beardtongue is a tufted perennial with stems up to 70 cm (28 in) tall from a loosely branched, woody rootstock. The deep green leaves are narrowly lanceshaped and mostly entire-margined. The basal ones are up to 17 cm (7 in) long, including the narrow petiole. The stem leaves are opposite, mostly without petioles, and are reduced upwards. The foliage is glabrous. The glandular-hairy inflorescence consists of clusters of numerous short-stalked flowers in the axils of the upper leaves. The tubular corolla is flared and two-lipped at the mouth. It is glandular-hairy on the outside, 12-20 mm long, and deep blue. The calyx is 4-7 mm long and has ovate or lance-shaped segments with white margins. The anther sacs are sparsely hairy. Flowering in July.

Penstemon is a large genus in our area. The combination of entire-margined leaves, glandular inflorescence, and hairy anthers separate this species from most others found at higher elevations in the southwest mountains.

COMMENTS:
Currently known in Montana from only one location in Ravalli County, near Saddle Mountain, where it was last observed in 1968.

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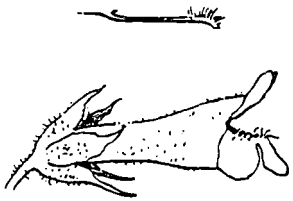
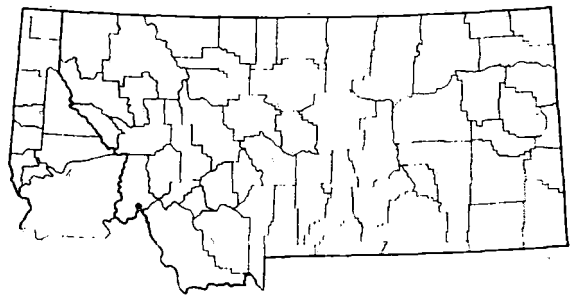
PENSTEMON ATTENUATUS var. MILITARIS





PENSTEMON LEMHIENSIS (Keck) Keck and Cronq.
Lemhi Beardtongue

FAMILY: Scrophulariaceae (Figwort Family)

SYNONYMS: P. SPECIOSUS Dougl. ex Lindl. ssp. LEMHIENSIS Keck.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: C2

MONTANA STATUS: Threatened.

GLOBAL AND STATE RANK: G3/S2

GLOBAL DISTRIBUTION: Southwestern MT and adjacent Lemhi Co., ID.

MONTANA COUNTIES: Beaverhead; historically known from Ravalli.

PHYSIOGRAPHIC DISTRIBUTION:
Big Hole Valley, Bitterroot Mtns., Pioneer Mtns., Tendoy Mtns.

NATIONAL FOREST(S):
Beaverhead, historically known from Bitterroot; possibly occurring on Deerlodge.

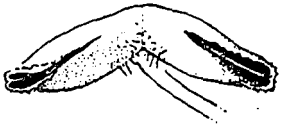
HABITAT:
Open sagebrush/bunchgrass areas, often near the lower treeline, from moderate to rather high elevations in the mountains; 1300-2470 m (4280-8100 ft).

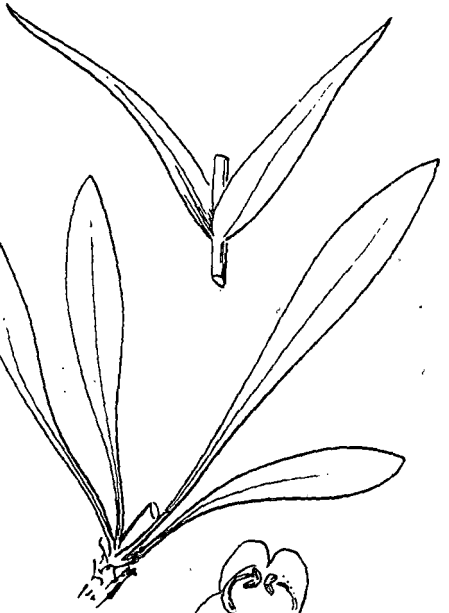
DESCRIPTION:
This is a large perennial, with 1-several stems up to 70 cm (28 in) tall from a branched rootstock and a short taproot. The leaves are narrowly lance-shaped and entire-margined. The basal ones have a petiole and are up to 16 cm (6 in) long. The opposite stem leaves are without petioles and are reduced upwards. The herbage is lightly covered with small hairs and occasionally with a thin bluish wax. The inflorescence consists of clusters of several short-stalked flowers in the axils of the upper leaves. The tubular corolla is flared and two-lipped at the mouth. It is 25-35 mm long and bright blue. The lance-shaped calyx segments taper to a long tip, are 7-11 mm long, and have a narrow white margin. Flowering in late June and July.

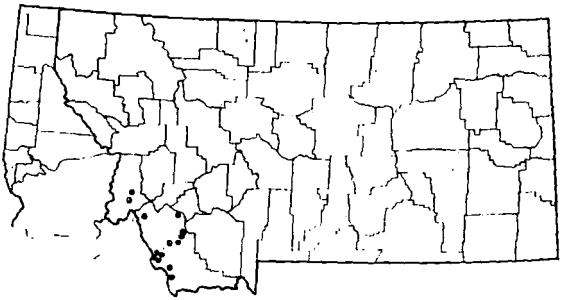
There are three species of tall beardtongues with large, bright blue flowers in southwestern Montana. P. lemhiensis can be distinguished in having narrow, tapered calyx segments greater than 7 mm long, and by its glabrous sterile stamen (staminode).

COMMENTS:
This species is a regional endemic with a restricted geograpic range. The historical records in Ravalli Co., MT, have not been recently verified. Population size tends to be small, and some sites are currently threatened by grazing and mining.

PENSTEMON LEMHIENSIS







PENSTEMON LEMHIENSIS

SALIX WOLFII Bebb var. WOLFII
Wolf's Willow

FAMILY: Salicaceae (Willow Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Sensitive.

GLOBAL AND STATE RANK: G4T4/S1

GLOBAL DISTRIBUTION:
Species: OR to NV, east to CO and w. MT. Var. wolfii: CO and UT, north to sw. MT and e. ID.

MONTANA COUNTIES: Deerlodge, Madison.

PHYSIOGRAPHIC DISTRIBUTION: Anaconda-Pintlar Mtns., Gravelly Mtns.

NATIONAL FOREST(S):
Beaverhead, Deerlodge; possibly occurring on Bitterroot, Custer, Gallatin.

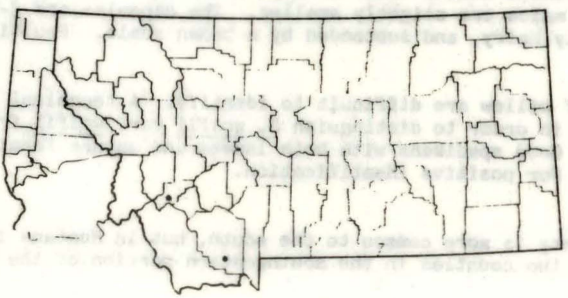
HABITAT:
Streambanks and wet meadows in the upper montane and subalpine zones; 2450-2750 m (8000-9000 ft).

DESCRIPTION:
This willow is a much-branched shrub, 60-200 cm (2-7 ft) tall, with young twigs that are loosely covered with long, soft hairs. The leaves have short petioles 210 mm long, and entire-margined, elliptic blades up to 4 cm long. They are usually densely covered with white hairs, more so beneath than above. The flowers are without petals and sepals and are borne in dense spike-like inflorescences (aments or catkins). These are subtended by 2-5 leaf-like bracts and borne on the twigs below the current year's terminal growth. The male and female aments occur on separate plants. The female aments are 1-3 cm long; the males are slightly smaller. The capsules are 3-5 mm long, glabrous or slightly hairy, and subtended by a brown scale. Fruiting in July and August.

Species of willow are difficult to identify. A technical key should be consulted in order to distinguish S. wolfii var. wolfii from closely related species. Good specimens with both leaves and mature female catkins are necessary for positive identification.

COMMENTS:
This variety is more common to the south, but in Montana it is currently known only from two counties in the southwestern portion of the state.

SALIX WOLFII var. WOLFII



SATUREJA DOUGLASII (Benth.) Briq.
Yerba Buena

FAMILY: Lamiaceae (Mint Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Watch List.

GLOBAL AND STATE RANK: G4/S1

GLOBAL DISTRIBUTION:
B.C. to CA, mainly west of the Cascade Mtns., but east to n. ID and nw. MT.

MONTANA COUNTIES: Missoula, Ravalli, Sanders.

PHYSIOGRAPHIC DISTRIBUTION:
Upper Bitterroot and lower Clark Fork river valleys.

NATIONAL FOREST(S): Bitterroot, Kootenai, Lolo.

HABITAT:
Partial or deep shade of moist forests in the montane zone; 670-1600 m (2200-5300 ft).

DESCRIPTION:
This perennial, rhizomatous species has prostrate, four-angled stems up to 1 m (3 ft) long that frequently root at the nodes, and short erect branches. The opposite leaves are ovate or nearly round and 1-4 cm long, with bluntly toothed margins. The petioles are short or lacking. The herbage is minutely and inconspicuously hairy. The flowers are borne singly on nodding stalks in the leaf axils. The white or purple-tinged corolla is tubular with a short, flaring, two-lipped mouth, 7-10 mm long. It is covered with short, stiff hairs on the outside. The calyx segments have 3 nerves each and are united most of their length. Flowering in July.

The opposite leaves and 4-angled stems identify this species as a member of the Mint Family. The long-stalked flowers, solitary in the leaf axils, separate it from other members of this family in our area.

COMMENTS:
This species seems to respond positively to light disturbance. In western Montana, it is currently known from four collections.

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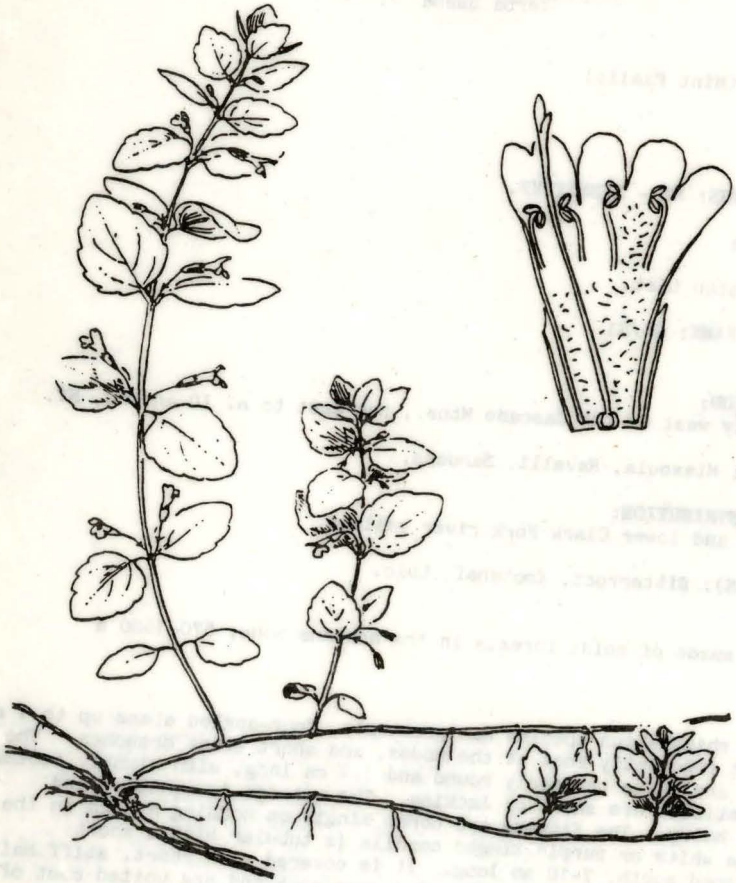
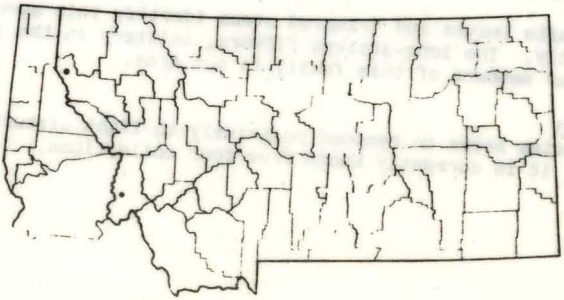
SATUREJA DOUGLASII





SAXIFRAGA TEMPESTIVA Elvander & Denton
Storm Saxifrage

FAMILY: Saxifragaceae (Saxifrage Family)

SYNONYMS: None.

CITATION:
Elvander, P.E. and M.F. Denton. 1976. Saxifraga tempestiva (Saxifragaceae), a new species from the Pacific Northwest. Madrono 23:346-354.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Limited Distribution

GLOBAL AND STATE RANK: G2/S2

GLOBAL DISTRIBUTION: Endemic to sw. MT.

MONTANA COUNTIES: Beaverhead, Deerlodge, Granite, Ravalli.

PHYSIOGRAPHIC DISTRIBUTION:
Anaconda-Pintlar, Bitterroot, Pioneer, and Sapphire Mtns.

NATIONAL FOREST(S): Beaverhead, Bitterroot, Deerlodge.

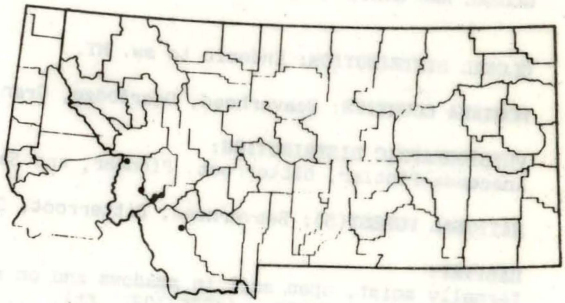
HABITAT:
Vernally moist, open soil in meadows and on rock ledges, near or above timberline; 2400-3150 m (7875-10325 ft).

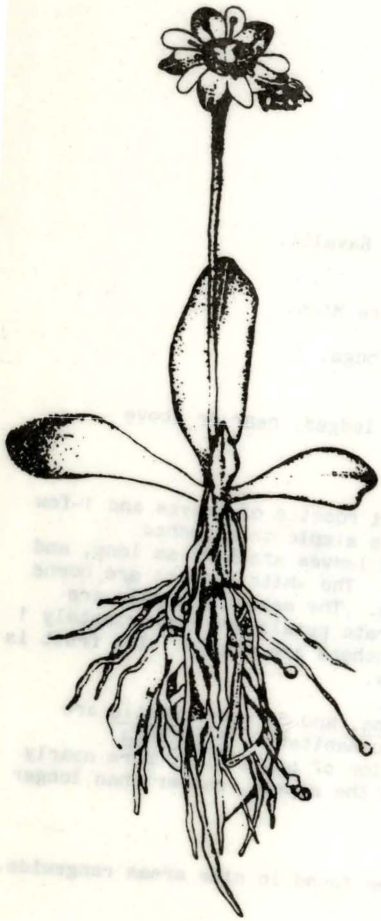
DESCRIPTION:
Storm saxifrage is a small perennial with a basal rosette of leaves and 1-few naked stems, 3-8 cm (1-3 in) tall, arising from a simple or branched rootstock. The glabrous, mostly entire-margined leaves are 5-25 mm long, and linear to egg-shaped with an indistinct petiole. The white flowers are borne in 1-few compact clusters at the top of the stem. The separate sepals are spreading or erect and 1-3 mm long. The 5 separate petals are approximately 1 mm long, always shorter than the sepals. The anthers are orange. The fruit is a two-lobed capsule. Flowering in June and July.

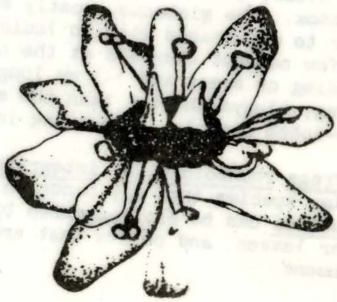
Saxifraga rhomboidea, S. integrifolia, S. oregana, and S. occidentalis are similar species that may occur in similar alpine habitats. Saxifraga tempestiva can be distinguished by the combination of small size, more nearly linear leaves, and petals that are smaller than the sepals, rather than longer or absent.

COMMENTS:
This species is endemic to Montana. It has been found in nine areas rangewide.

SAXIFRAGA TEMPESTIVA







SAXIFRAGA TEMPESTIVA

SELAGINELLA WATSONII Underw.
Watson's Selaginella

FAMILY: Selaginellaceae (Spike Moss Family)

SYNONYMS: None.

USFS REGION 1 STATUS: MT - SENSITIVE.

USFWS STATUS: None.

MONTANA STATUS: Threatened.

GLOBAL AND STATE RANK: G4G5/S1

GLOBAL DISTRIBUTION:
UT, NV, and c. and s. CA, with single isolated stations in the Wallowa Mtns. of OR, and Pioneer Mtns. of MT.

MONTANA COUNTIES: Beaverhead.

PHYSIOGRAPHIC DISTRIBUTION: Pioneer Mtns.

NATIONAL FOREST(S): Beaverhead; possibly occurring on Deerlodge.
HABITAT:
Exposed, rocky sites at middle and upper altitudes in the mountains, sometimes above timber line; 2744 m (9000 ft) in MT.

DESCRIPTION:
These are low, mat-forming plants, superficially resembling mosses. The prostrate stems with erect or ascending branches form cushions up to 10 cm (4 in) wide. The small, sessile leaves are crowded and arranged in spirals around the stem. They are linear to egg-shaped and up to 2.5 mm long, with a white needle-like tip 1/4-1/3 as long as the blade. The spores are borne in spore sacs on the undersides of specialized leaves (sporophylls) that form a four-sided cone at the tip of some stems. The sporophylls are usually broader than the vegetative leaves and are obviously keeled on the back.

This species is difficult to distinguish from the more widespread Selaginella densa, which can occur in the same habitat. S. densa has longer leaves on the lower or convex side of the branch, while S. watsonii has leaves all about equal length on the same level of the branch.

COMMENTS:
The single known location for this species in Montana, on Comet Mountain in the Pioneer Range, has not been verified since 1921. This site is widely disjunct from the main range of the species.

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SELAGINELLA WATSONII